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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,193

06/21/2007

Jurgen Gaydoul

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EXAMINER

KOEHLER, CHRISTOPHER M

ART UNIT

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3726

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,193	Applicant(s) GAYDOUL, JURGEN	
	Examiner Christopher M. Koehler	Art Unit 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Gaydoul (US Patent No. 5,502,881).

Claim 1:

Gaydoul teaches an apparatus for descaling hot rolled stock (7, figure 3, abstract), being moved (F) with respect to the apparatus (8), by spraying it with high pressure water (abstract), comprising at least one row of nozzle heads (20) sweeping across the width of the rolled stock with a plurality of nozzle heads (figure 3), each nozzle head being motor-driven in rotation about an axis of rotation (A) (col. 4, lines 1-9) substantially perpendicular to the surface of the rolled stock (figure 3) and comprising at least two nozzles (21, figure 4) which are disposed eccentrically (figure 7) with respect to the axis of rotation (A), the nozzles of each nozzle head being arranged as closely as structurally possible to the circumference of the nozzle head (figure 7), whereby a spray pattern (figures 6 and 8) is created on the surface of the rolled stock in a way to touch or overlap (figure 8) the spray pattern of the adjacent nozzle head in the row of nozzle heads, and the nozzles being arranged in the nozzle head radially inclined outwardly at an angle of inclination (a) in the range of 0° 0~ 20° (figure 9, angle alpha, col. 3, lines

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60-67), and inclined in circumferential direction (f,f) in the forward direction of the rotation of the nozzle head (see figure 4 where it is clearly illustrated that the nozzle is inclined so as to spray at an angle to the left of the axis of the nozzle head in the forward direction of rotation in addition to being angled radially outwardly).

Claim 2:

Gaydoul teaches that the angle of radial inclination (alpha) is in the range of 0 to 30 degrees (col. 3, lines 60-67) and in one specific embodiment is 15 degrees (col. 5, lines 63-67)

Claims 5 and 10:

Gaydoul teaches that the jet opening angle of the jet exiting from the nozzles is 0 to 15 degrees (figure 5).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6-13 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaydoul.

Claims 6, 7, 17 and 18:

Gaydoul teaches two embodiments having 4 and 2 nozzles mounted evenly distributed on the nozzle head (figures 4, 10 and 11) but does not explicitly teach that the nozzle head has 6 or 8 nozzles evenly distributed on the nozzle head. The

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disclosure implies that the number of nozzles is selected based on the characteristics of the material to be sprayed. At the time of the invention it would have been an obvious matter of design choice to one of ordinary skill, to have used 6 or 8 nozzles because applicant has not disclosed that the additional nozzles provide an advantage or solve a stated problem not met by 2 or 4 nozzles. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either the number of nozzles taught by Gaydoul or the claimed number of nozzles because both perform the same function of removing scale equally well. Therefore, it would have been an obvious matter of design choice to modify Gaydoul to obtain the invention specified in claims 6, 7, 17 and 18.

Claim 8:

Gaydoul teaches an apparatus for descaling hot rolled stock (7, figure 3, abstract), being moved (F) with respect to the apparatus (8), by spraying it with high pressure water (abstract), comprising at least one row of nozzle heads (20) sweeping across the width of the rolled stock with a plurality of nozzle heads (figure 3), each nozzle head being motor-driven in rotation about an axis of rotation (A) (col. 4, lines 1-9) substantially perpendicular to the surface of the rolled stock (figure 3) and comprising at least two nozzles (21, figure 4) which are disposed eccentrically (figure 7) with respect to the axis of rotation (A), the nozzles of each nozzle head being arranged as closely as structurally possible to the circumference of the nozzle head (figure 7), whereby a spray pattern (figures 6 and 8) is created on the surface of the rolled stock in a way to touch or overlap (figure 8) the spray pattern of the adjacent nozzle head in the row of nozzle

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heads, and the nozzles being arranged in the nozzle head radially inclined outwardly at an angle of inclination (α) in the range of 0° to 20° (figure 9, angle α , col. 3, lines 60-67), and inclined in circumferential direction (f,f) of the rotation of the nozzle head (see figure 4 where it is clearly illustrated that the nozzle is inclined so as to spray at an angle to the left of the axis of the nozzle head in the forward direction of rotation in addition to being angled radially outwardly and col. 5, lines 4 and 5). Gaydoul does not explicitly teach that pairs or groups of nozzle heads are adapted to be switched off or on in correspondence with different widths of rolled stock.

Applicant Admitted Prior Art (AAPA) (see MPEP 2144.03) teaches that it is well known in the art of descaling apparatuses to descale varying widths of rolled stock and that in doing so nozzles are switched on or off depending on the width of the rolled stock being processed. It would have been obvious to one of ordinary skill in the art at the time of the invention to have switched on nozzles that are over the rolled stock and switch off nozzles that have no rolled stock between them for several reasons including the conservation of the descaling fluid and the prevention of undue wear on the nozzle heads caused by opposing nozzle heads spraying high pressure fluid against each other with no rolled stock therebetween.

Claim 16:

See rejections of claim 10 above.

Claims 11 and 15:

See rejections of claims 2 and 5 above.

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5. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaydoul in view of Hiroshi et al. (JP 11-216513).

Claims 4 and 14:

Gaydoul teaches the invention claimed but does not explicitly teach that adjacent nozzle heads in the row of nozzle heads are driven to rotate in opposite directions with respect to one another.

Hiroshi teaches steel descaling nozzle heads and nozzles wherein the nozzle heads (2) are placed adjacent to one another (figures a and b) and the row of nozzle heads are driven to rotate in opposite directions with respect to one another (figure b). It would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the rotation teaching of Hiroshi to the apparatus of Gaydoul since the counter rotation of adjacent heads results in a more efficient and uniform descaling between the heads by preventing the interference of high pressure water between the heads (see Hiroshi "Problem to be Solved").

6. Claims 1-3, 5-13 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaydoul in view of Petsch (US Patent No. 3,829,019). *Note:* In the event that applicant traverses the anticipation of the Gaydoul reference with respect to the inclination in the forward direction of the nozzle the examiner has provided a secondary interpretation of obviousness as provided below.

Claims 1, 3 and 9:

Gaydoul teaches an apparatus for descaling hot rolled stock (7, figure 3, abstract), being moved (F) with respect to the apparatus (8), by spraying it with high

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pressure water (abstract), comprising at least one row of nozzle heads (20) sweeping across the width of the rolled stock with a plurality of nozzle heads (figure 3), each nozzle head being motor-driven in rotation about an axis of rotation (A) (col. 4, lines 1-9) substantially perpendicular to the surface of the rolled stock (figure 3) and comprising at least two nozzles (21, figure 4) which are disposed eccentrically (figure 7) with respect to the axis of rotation (A), the nozzles of each nozzle head being arranged as closely as structurally possible to the circumference of the nozzle head (figure 7), whereby a spray pattern (figures 6 and 8) is created on the surface of the rolled stock in a way to touch or overlap (figure 8) the spray pattern of the adjacent nozzle head in the row of nozzle heads, and the nozzles being arranged in the nozzle head radially inclined outwardly at an angle of inclination (α) in the range of 0° to 20° (figure 9, angle alpha, col. 3, lines 60-67), and inclined in circumferential direction (f,f) in the forward direction of the rotation of the nozzle head (see figure 4 where it is clearly illustrated that the nozzle is inclined so as to spray at an angle to the left of the axis of the nozzle head in the forward direction of rotation in addition to being angled radially outwardly). While Gaydoul depicts the inclination of the nozzle in the circumferentially forward direction in figure 4, Gaydoul does not further describe the circumferential inclination of the nozzle in his disclosure.

Petsch teaches an apparatus for removing undesirable material from a planar surface comprising nozzles (81, 82) mounted for rotation (figure 6), wherein the nozzles are inclined at an angle of 15 degrees in the circumferential direction in the forward direction of the rotation of the nozzle head (figure 9, col. 5, lines 4-28). One of ordinary

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skill in the art at the time of the invention would have found it obvious to provide nozzles spraying a jet of fluid inclined in the circumferential direction in the forward direction of the rotation of the nozzle head as taught by Petsch to the spraying nozzle heads of Gaydoul since Petsch teaches that such an inclination will strike the cleaning surface at a forward incline or angle to loosen, cut into and peel off any foreign material on the surface and that the speed of the jet is increased by the amount of the speed of rotation of the nozzle head thereby aiding in peeling the foreign material from the surface to be cleaned (col. 5, lines 20-28).

Claim 2:

Gaydoul teaches that the angle of radial inclination (α) is in the range of 0 to 30 degrees (col. 3, lines 60-67) and in one specific embodiment is 15 degrees (col. 5, lines 63-67)

Claims 5 and 10:

Gaydoul teaches that the jet opening angle of the jet exiting from the nozzles is 0 to 15 degrees (figure 5).

Claims 6, 7, 17 and 18:

Gaydoul teaches two embodiments having 4 and 2 nozzles mounted evenly distributed on the nozzle head (figures 4, 10 and 11) but does not explicitly teach that the nozzle head has 6 or 8 nozzles evenly distributed on the nozzle head. The disclosure implies that the number of nozzles is selected based on the characteristics of the material to be sprayed. At the time of the invention it would have been an obvious matter of design choice to one of ordinary skill, to have used 6 or 8 nozzles because

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applicant has not disclosed that the additional nozzles provide an advantage or solve a stated problem not met by 2 or 4 nozzles. One of ordinary skill in the art, furthermore, would have expected applicants' invention to perform equally well with either the number of nozzles taught by Gaydoul or the claimed number of nozzles because both perform the same function of removing scale equally well. Therefore, it would have been an obvious matter of design choice to modify Gaydoul to obtain the invention specified in claims 6, 7, 17 and 18.

Claims 8, 12 and 13:

Gaydoul teaches an apparatus for descaling hot rolled stock (7, figure 3, abstract), being moved (F) with respect to the apparatus (8), by spraying it with high pressure water (abstract), comprising at least one row of nozzle heads (20) sweeping across the width of the rolled stock with a plurality of nozzle heads (figure 3), each nozzle head being motor-driven in rotation about an axis of rotation (A) (col. 4, lines 1-9) substantially perpendicular to the surface of the rolled stock (figure 3) and comprising at least two nozzles (21, figure 4) which are disposed eccentrically (figure 7) with respect to the axis of rotation (A), the nozzles of each nozzle head being arranged as closely as structurally possible to the circumference of the nozzle head (figure 7), whereby a spray pattern (figures 6 and 8) is created on the surface of the rolled stock in a way to touch or overlap (figure 8) the spray pattern of the adjacent nozzle head in the row of nozzle heads, and the nozzles being arranged in the nozzle head radially inclined outwardly at an angle of inclination (a) in the range of 0° to 20° (figure 9, angle alpha, col. 3, lines 60-67), and inclined in circumferential direction (f,f) of the rotation of the nozzle head

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(see figure 4 where it is clearly illustrated that the nozzle is inclined so as to spray at an angle to the left of the axis of the nozzle head in the forward direction of rotation in addition to being angled radially outwardly and col. 5, lines 4 and 5). Gaydoul does not explicitly teach that pairs or groups of nozzle heads are adapted to be switched off or on in correspondence with different widths of rolled stock.

Applicant Admitted Prior Art (AAPA) (see MPEP 2144.03) teaches that it is well known in the art of descaling apparatuses to descale varying widths of rolled stock and that in doing so nozzles are switched on or off depending on the width of the rolled stock being processed. It would have been obvious to one of ordinary skill in the art at the time of the invention to have switched on nozzles that are over the rolled stock and switch off nozzles that have no rolled stock between them for several reasons including the conservation of the descaling fluid and the prevention of undue wear on the nozzle heads caused by opposing nozzle heads spraying high pressure fluid against each other with no rolled stock therebetween.

While Gaydoul, as described above, depicts the inclination of the nozzle in the circumferentially forward direction in figure 4, Gaydoul does not further describe the circumferential inclination of the nozzle in his disclosure.

Petsch teaches an apparatus for removing undesirable material from a planar surface comprising nozzles (81, 82) mounted for rotation (figure 6), wherein the nozzles are inclined at an angle of 15 degrees in the circumferential direction in the forward direction of the rotation of the nozzle head (figure 9, col. 5, lines 4-28). One of ordinary skill in the art at the time of the invention would have found it obvious to provide nozzles

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spraying a jet of fluid inclined in the circumferential direction in the forward direction of the rotation of the nozzle head as taught by Petsch to the spraying nozzle heads of Gaydoul since Petsch teaches that such an inclination will strike the cleaning surface at a forward incline or angle to loosen, cut into and peel off any foreign material on the surface and that the speed of the jet is increased by the amount of the speed of rotation of the nozzle head thereby aiding in peeling the foreign material from the surface to be cleaned (col. 5, lines 20-28).

Claim 16:

See rejections of claim 10 above.

Claims 11 and 15:

See rejections of claims 2 and 5 above.

7. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaydoul/Petsch in view of Hiroshi et al. (JP 11-216513).

Claims 4 and 14:

Gaydoul/Petsch teaches the invention claimed but does not explicitly teach that adjacent nozzle heads in the row of nozzle heads are driven to rotate in opposite directions with respect to one another.

Hiroshi teaches steel descaling nozzle heads and nozzles wherein the nozzle heads (2) are placed adjacent to one another (figures a and b) and the row of nozzle heads are driven to rotate in opposite directions with respect to one another (figure b). It would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the rotation teaching of Hiroshi to the apparatus of Gaydoul/Petsch

since the counter rotation of adjacent heads results in a more efficient and uniform descaling between the heads by preventing the interference of high pressure water between the heads (see Hiroshi "Problem to be Solved").

Response to Arguments

8. Applicant's arguments filed 4/22/2010 have been fully considered but they are not persuasive. However, applicant should note the addition of a new, secondary, grounds of rejection.

9. Applicant argues that it is improper for the examiner to rely solely on figure 4 of Gaydoul for the basis of his rejection as to the presence of an angle of inclination in the circumferential direction in the forward direction of the rotation of the nozzle head as asserted in the final office action. Applicant cites the examiner to MPEP 2125 for the proposition that "when the reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurement of the drawing features are of little value." MPEP 2125. This is because "ordinarily drawings which accompany an application for a patent are merely illustrative of the principles embodied in the alleged invention claimed therein and do not define the precise proportions of elements relied upon to endow the claims with patentability." *In re Olson*, 212 F.2d 590, 592 (CCPA 1954). This restriction on the use of patent drawings applies not only to measurements but also applies to relative dimensions such as comparing the pitches of a screw. See *Ex Parte Frenk*, 2009 WL1763974 (Bd. Pat. App. & Interfer.). Applicant also argues that his position is supported by the inconsistencies of the other figures of Gaydoul with the examiners interpretation of figure 4. Finally, applicant argues that

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there is no written description that the nozzles are inclined in the circumferential direction and without that, the examiner's interpretation of a perspective view of a patent figure as showing nozzles that are inclined both radially and circumferentially is improper.

10. Regarding applicant's arguments to the impropriety of the examiner's rejection with respect to MPEP 2125, the examiner respectfully maintains that applicant has mischaracterized MPEP 2125 and that if MPEP 2125 were applicable to the examiner's rejection in light of figure 4 of Gaydoul it would support the examiner's rejection not oppose it. The examiner has not relied on figure 4 for the dimension, measurement, precise proportions or other measurable quantity; rather the examiner relies on figure 4 to support the existence of a (any) angle of inclination in the forward circumferential direction as clearly shown. Were the examiner to assert, for example, that the angle is Y degrees as shown in figure X, the rejection would be improper under MPEP 2125 because it would be a measurement of a quantity (angle, dimension, etc.). However, such is not the case here.

11. Furthermore, MPEP 2125 explicitly states "drawings in a design patent can anticipate or make obvious the claimed invention as can drawings in utility patents. When the reference is a utility patent, it does not matter that the feature shown is unintended or unexplained in the specification. The drawings must be evaluated for what they reasonably disclose and suggest to one of ordinary skill in the art. *In re Aslanian*, 590 F.2d 911, 200 USPQ 500 (CCPA 1979)". Therefore, the examiner must interpret figure 4 for what it reasonably discloses and suggests to one of ordinary skill in

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the art and the fact that it is unintended and unexplained in the specification is immaterial. One of ordinary skill in the art would reasonably understand figure 4 to show four equally spaced rotating nozzles having angles of inclination in the radially outward direction (see left and right nozzles) and the circumferentially forward direction (see middle two nozzles) while the nozzles spray with a jet opening angle. One of ordinary skill in the art could not readily adduce the values of the angles shown but the existence of the angles is readily apparent.

12. Moreover, the lack of "written description" argument asserted by the applicant is unpersuasive on two grounds. First, MPEP 2125 explicitly states that it is immaterial whether the feature shown is unintended or unexplained in the specification. Second, one may show possession of an invention by disclosure of drawings or structural chemical formulas that are sufficiently detailed to show that applicant was in possession of the claimed invention as a whole. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d at 1565, 19 USPQ2d at 1118 ("drawings alone may provide a 'written description' of an invention as required by Sec. 112").

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Koehler whose telephone number is (571)272-3560. The examiner can normally be reached on Mon.-Fri. 7:30A-4:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. M. K./
Examiner, Art Unit 3726

/DAVID P. BRYANT/
Supervisory Patent Examiner, Art Unit 3726